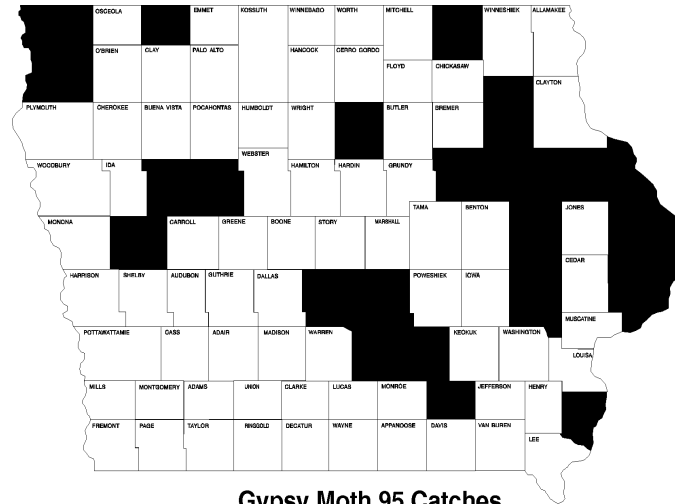


# Iowa's Forest & Tree Health 1996



## Gypsy Moth 95 Catches

**For More Information, Contact:**  
Forest Health Program  
Forestry Division-Iowa DNR  
Wallace State Office Building  
Des Moines, Iowa 50319-0034  
(515) 242-5966 or Fax (515) 281-6794

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## Why worry about the health of our forests?

Six percent (over 2 million acres) of Iowa is covered by trees and forests. Our forests have significant impacts on our agricultural-based economy, protection of our drinking water supply, critical wildlife habitat, and overall enjoyment of the place that we call Iowa. Wood industries employ over 7,000 Iowans producing lumber and high quality wood products. Trees in our small and large communities, our "urban forests," increase property values and conserve cooling and heating energy. Our forests are vital to our state's future.

Because our forest resources are valuable to the citizens of Iowa, the Forestry Division of the Iowa Department of Natural Resources (DNR) began monitoring forest and tree health conditions in the late 1970's. This monitoring effort today is used to determine overall forest and tree health conditions, status of natural and exotic insect and disease problems, and to provide up-to-date information for private and public managers to aid in the sustained management of Iowa's forest resources.

Cooperative monitoring efforts with Iowa State University, the Iowa Department of Agriculture and Land Stewardship (IDALS), the USDA Forest Service (USFS), municipal foresters and private forest land owners, allows efficient monitoring efforts. In addition, cooperation fosters improved communications to professional and to individuals on Iowa's forest resource management issues.

## Monitoring Efforts for 1995

Estimates of serious forest and tree health problems, such as insects, diseases, and flooding impacts, were determined by aerial surveys of over 64,500 acres of representative forested areas across the state conducted during the summer of 1996. Visual surveys from DNR Foresters, municipal foresters, and trained volunteers were also evaluated as well as results from the Plant Disease Clinic at Iowa State University in

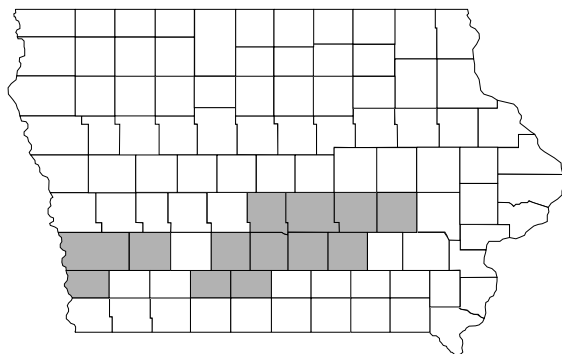
determining forest and tree health conditions and distribution. Potentially the greatest threat to our forests from the famous “Gypsy Moth,” not yet established in our state yet potentially serious, which required placement of 5241 pheromone survey traps by the IDALS State Entomologist's Office to determine infestation areas and sites in need of quick eradication efforts.

Recent efforts to develop vegetation management plans for selected state park and recreation areas utilizing Geographic Information System (GIS) mapping was continued in 1996, utilizing DNR Forestry aerial survey work. State park areas where this information is being utilized include: Backbone State Park, Geode State Park, George Wyth State Park, Lacey-Keosauqua State Park, Lake Ahquabi State Park, Palisades-Kepler State Park, Pikes Peak State Park, Prairie Rose State Park, Springbrook State Park, Viking Lake State Park, Waubonsie State Park, Wildcat Den State Park, and Wilson Island State Park. In addition, significant areas of forest such as Loess Hills, Shimek State Forest, Stephens State Forests and Yellow River State Forest were also aerial surveyed during late July to determine the extent of Oak Wilt and other forest health problems.

An intensive survey was conducted in cooperation with Iowa State University Department of Plant Pathology in nine Iowa communities to determine the impact of a potentially serious dieback of Norway (*Acer plantanoides*), Sugar (*Acer saccharum*) and Black (*Acer nigrum*) maples

(major species in Iowa communities in urban settings) called "Hard Maple Decline." DNR and municipal foresters assisted ISU in surveying

474declining hard maples in Ames, Burlington,  
Cedar Falls, Cedar Rapids, Davenport, Des  
Moines, Fort Dodge, Maquoketa, and Postville.  
Preliminary results indicate decline symptoms  
could be due to improper planting techniques.  
Further research by Iowa State University's  
Plant Pathology department will be supported  
by the Department.



**1997 snow storm disaster areas**

## Weather

The Winter - Spring of 1997 was below normal in temperature and below normal in precipitation. Low winter temperatures, followed by a warm/dry Spring, delayed bud break by an average of 2 weeks. Winter burn impacted conifer windbreak plantings across Northern and Eastern Iowa. Severe wind storms and tornadoes were common during the Summer impacting areas of Knoxville and Davenport. Warm temperatures and low rainfall during the late Summer to early Autumn delayed leaf drop and fall color. A major snowfall on October 26th caused extensive limb damages to trees in 52 counties across the state. A total of 58,000 urban trees had significant damage, resulting in over \$5.1 million in clean up costs in 80+ Iowa communities. As a result, President Clinton declared on November 20th, 13 counties as Disaster areas.

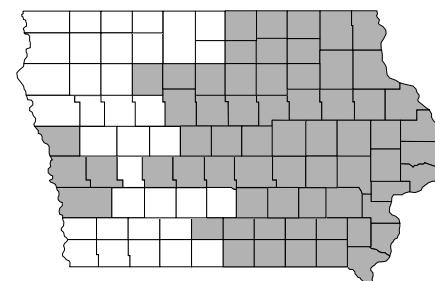
## Forest Results

Oak Wilt, caused by the fungus *Ceratocystis fagacearum*, invades the water-conducting tissues (xylem) of oak trees and causes the foliage to wilt and die. This continues to be the most serious tree disease in Iowa impacting 2,380 new acres. Although all species of oaks are susceptible, the red oak group, especially black oak (*Quercus velutina*) and red oak (*Quercus rubra*) often die within weeks

of infection. Oak wilt is spread via root grafts and sap-feeding beetles. Although there is no cure for Oak Wilt, control strategies such as preventing tree wounds during high infection periods (April 1 to July 1), disease containment by cutting roots of infected trees, and killing oak trees surrounding infected trees promptly appear to be the most effective management options. The White Oak family continues to show signs of decline due to the droughts of the late 1980's and saturated soils of the early 90's. Secondary diseases such as Armillaria Root Disease (*Armillaria spp.*) and secondary insects like Two-lined chestnut borer (*Agilus bilineatus*) impacted over 170 acres statewide, including newly located areas in the Iowa Great Lakes region in 1997.

Dutch elm disease (DED), caused by the fungus *Ophiostoma ulmi/novo-ulmi*, has reestablished itself across Iowa impacting 489 acres of American elm (*Ulmus americana*) and red elm (*Ulmus rubra*). Much of the re-emergence of DED is due to the high humidity conditions of the past few years and an increase in the number of 20-30 year-old American elms that have naturally regenerated in bottomland areas across the state. Lack of sanitation and removal of infected trees has contributed to the increase by providing breeding sites for fungus carrying bark beetles.

Dipolda tip blight (*Sphaeropsis sapinea*) continues to damage non native conifer plantations, windbreaks and ornamental plantings of Austrian pine (*Pinus nigra*), Red Pine (*Pinus resinosa*), Ponderosa pine (*Pinus ponderosa*) and Scotch Pine (*Pinus sylvestris*), impacting 170 acres. In addition, canker and needle blights of spruces (*Picea spp.*) impacted over 100 acres of windbreaks. Ash Yellows, a recently discovered disease that causes slow growth and chronic decline of ash (*Fraxinus spp.*), impacted green (*Fraxinus pennsylvanica*) and white ash (*Fraxinus americana*) in the Eastern and Central portions of Iowa, involving over 106 acres.



**Deer Browse impact 1997**

Browsing damage by White-tailed deer (*Odocoileus virginianus*) impacted 1,000 acres of forest and Christmas tree plantations, and natural regeneration efforts in 62 counties documented by DNR foresters. It is hoped expanded deer hunting seasons will bring the populations into line with habitat.

## Community Tree Results

Iowa's communities are dominated by three major tree species: green ash, silver maple and Norway maple. These trees are subject to tremendous environmental stresses caused by severely compacted soils, weather extremes and human abuse. These stresses often cause opportunistic secondary insect and diseases the chance to become established and cause gradual tree dieback and mortality.

The impact of the floods of 1993 are still being felt by trees growing in poorly drained clay soils due to the past saturated conditions. Over 2,000 mature white/bur oaks were removed by municipalities and homeowners in 1997 due to sudden crown decline and tree mortality. Evidence of Two-lined Chestnut borer and Armillaria mellea root rot were common. Continued reports of declining hard maple species in urban areas were received from Eastern and Central Iowa communities that maybe the result of past weather extremes and improper planting techniques.

The famous 17 year locusts or cicadas (*Magicicada septendecim*) made their appearance throughout the Central Iowa area, causing not only lots of noise, but small limb damage due to their egg laying activities. A brood is expected to occur in SW Iowa in 1998.

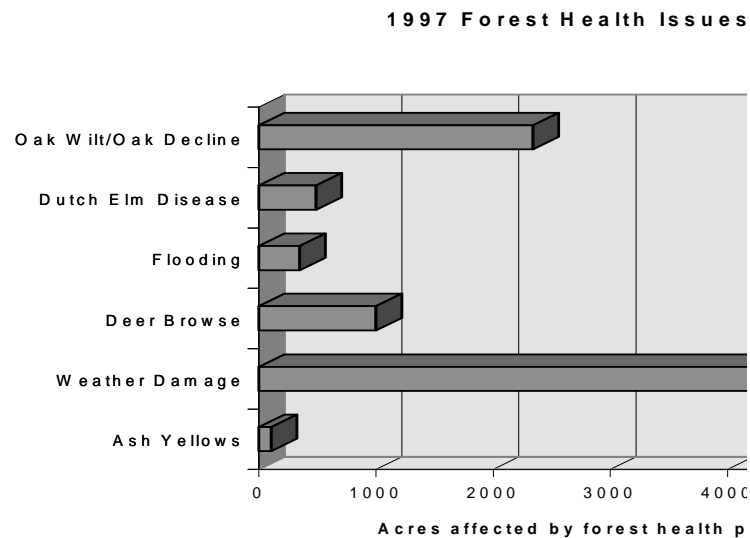
Dipolda tip blight on Austrian and Ponderosa pine, Cytospora canker (*Cytospora spp.*) on spruce, Anthracnose (*Gloeosporium gridum*) on ash and sycamore along with Aphids on ash and Bur/White oak were observed in minor amounts. A rather large outbreak of Mimosa Webworm (*Homadula anisocentra*) was observed impacting honeylocust (*Gleditsia tricanthos*) in Central Iowa. None of these appear to be threatening.

The weather was the greatest stressor of urban trees during 1997, several wind storms and the sudden snow storm in late October caused extensive limb and top damages to Silver maple, Siberian elm and many other tree species.

## Gypsy Moth in Iowa

The Gypsy Moth (*Lymantria dispar*) is a potentially serious insect defoliator of Iowa's native deciduous trees and forests. Since 1981, the State Entomologist has been trapping and eradicating Gypsy moths associated with accidental introductions coming into Iowa. One major 10 acre eradication project was conducted by the State Entomologist in cooperation with USDA APHIS within the community of Dundee in Delaware county during June of 1997. Infested nursery stock had been outplanted unknowingly by a homeowner as a windbreak. Detection surveys located this site in late 1996.

Adult male moth trapping across the state yielded 150 moths--an increase of over 25% from 1996. Gypsy moth populations are building in neighboring states to the east in Illinois and Wisconsin. Accidental and natural spread of this pest can only be prevented by continued vigilance.



#### For More Information Contact:

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Iowa Department of Natural Resources  
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Des Moines, Iowa 50319-0034  
(515) 242-5966 or FAX (515) 281-6794  
e-mail [jwalkow@max.state.ia.us](mailto:jwalkow@max.state.ia.us)

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# Iowa's Forest and Tree Health 1997

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Cooperative monitoring efforts with Iowa State University, Iowa Department of Agriculture and Land Stewardship (IDALS), USDA Forest Service (USFS), municipal foresters, and private land owners encourages efficient monitoring efforts. In addition, cooperation fosters improved communications to professionals and others on Iowa’s forest resource management issues.

## Monitoring Efforts for 1997

Estimates of serious forest and tree insects, diseases, and weather impacts, were determined by aerial surveys of over 98,800 acres of representative forested areas across the state conducted during the Summer of 1997. Visual surveys from DNR Foresters, municipal foresters, and trained volunteers were also evaluated, as well as aerial survey assistance from the USFS, in determining forest and tree health conditions and locations of pest problems. Potentially the greatest threat to our forests is from the famous “Gypsy Moth,” (not yet established in our state, but potentially serious) which required placement of 6,000 pheromone survey traps by the IDALS State Entomologist's Office and selected volunteers to determine infestation areas and sites in need of quick eradication efforts.

Efforts to assist vegetation management plans for state park and recreation areas utilized DNR Forestry aerial survey work. State park areas surveyed during 1997 included: Backbone State Park, Geode State Park, George Wyth State Park, Lacey-Keosauqua State Park; Lake Ahquabi State Park, Palisades-Kepler State Park, Pikes Peak State Park, Prairie Rose State Park, Springbrook State Park, and Wilson Island State Park. In addition, significant areas of forest such as Loess Hills State Forest, Shimek State Forest, Stephens State Forests, Yellow River State Forest, Amana Colonies, and the Burlington Ammunitions Plant were aerial surveyed during late July to determine the extent of Oak Wilt and other regional forest health problems.

Efforts to understand oak wilt and to develop new management tools were tried in 1997. A trial utilizing registered herbicides to kill and encircle disease pockets were set up at the Amana Colonies. With the University of Minnesota collections of disease spreading "nitidulid" beetles was completed.